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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,867	02/18/2002	Romain L. Billet		4962

7590 12/07/2005
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EXAMINER

LOPEZ, CARLOS N

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/082,867	Applicant(s) BILLIET ET AL.	
	Examiner Carlos Lopez	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,5,6,11 and 19-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,5,6,11 and 19-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*. See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/10/02</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Objections

Claims 21-24 and 27-29 objected to because of the following informalities: the misspelling of the word "preform". Appropriate correction is required.

Applicant is advised that should claims 21-24 are be found allowable, claims 25 and 27-29 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim 26 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation of claim 26 is recited in the last paragraph of claim 25.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 5-6, 11, and 19-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reiber et al (US 6,354,479) in view of Perlberg et al (US 5,421,503). Reiber discloses a method for producing ceramic bonding tools. The method comprises

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of forming a mixture of fine sinterable material and one degradable organic thermoplastic material, deemed as the disclosed binder, organic solvents, dispersants and sintering aids (see Reiber Col. 5, lines 5-25). While Reiber is silent of "accurately determined value" of sinterable and thermoplastic material, it is obvious to a person of ordinary skill in the art that the amounts of material are predetermined in order to obtain the desired composition that can be formed into a bonding tool. The claimed step c is deemed as molding the mixture into wedges and drying the wedges to extract the binders and dispersants before finally sintering the wedges into dense products, which are wire bonding capillaries as shown in figures 1-3. The disclosed step of Reiber of sintering is deemed as comprising part of claimed step (d). It is also noted that sintering of the oversized wedges into a dense end product reduces the diameter of the borehole. Additionally, sintering of the wedge would cause it to densify and reduce its borehole diameter, thus the final dimensions would be obtained during sintering as claimed. The borehole diameter can't be changed by machining the exterior surface of the wire-bonding tool as alleged by applicant. What Perlberg and Reiber teach is that the bonding tip can be machined, but the machining only changes the pitch of the bonding tip not the borehole per se as instantly alleged. Applicant is referred to Perlberg Col. 1, lines 54ff, specifically noting that the tip and neck of the bonding tool can be reduced, which applicant alleges is done by machining, but does not explicitly disclose or imply that the borehole per se is machined or changed through a machining step. Furthermore, the phrase "final" is relative meaning the dimension may be final to the operator that forms the borehole but not to the user who may subsequently modify it.

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As for claims 22-24 and 27-29, while Reiber is silent disclosing the size of the borehole formed in the ceramic bonding tool, Perlberg notes that the diameter of the borehole is depended on the size of the wire running through the bonding tool, see col.3, lines 23-31. Hence, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have provided Reibers' borehole the claimed diameters in order to accommodate a wire running through the borehole of the bonding tool as taught by Perlberg. Thus in providing a borehole of diameter of 13, 10 or 8 micrometers, applicant is merely specifying the type of wire that the bonding tool can accommodate.

As for claim 3, the sinterable materials are ceramics and metals as shown in Col. 6 of Reiber.

As for claim 5, organic solvents encompass the claimed waxes, greases and oils.

Response to Arguments

Applicant's arguments filed 9/22/05 have been fully considered but they are not persuasive. A response to applicant's arguments is found above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is 571.272.1193. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571.272.1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, consisting of a stylized, cursive 'L' followed by a horizontal line.